FIG.1A PRIOR ART

FIG.1B PRIOR ART
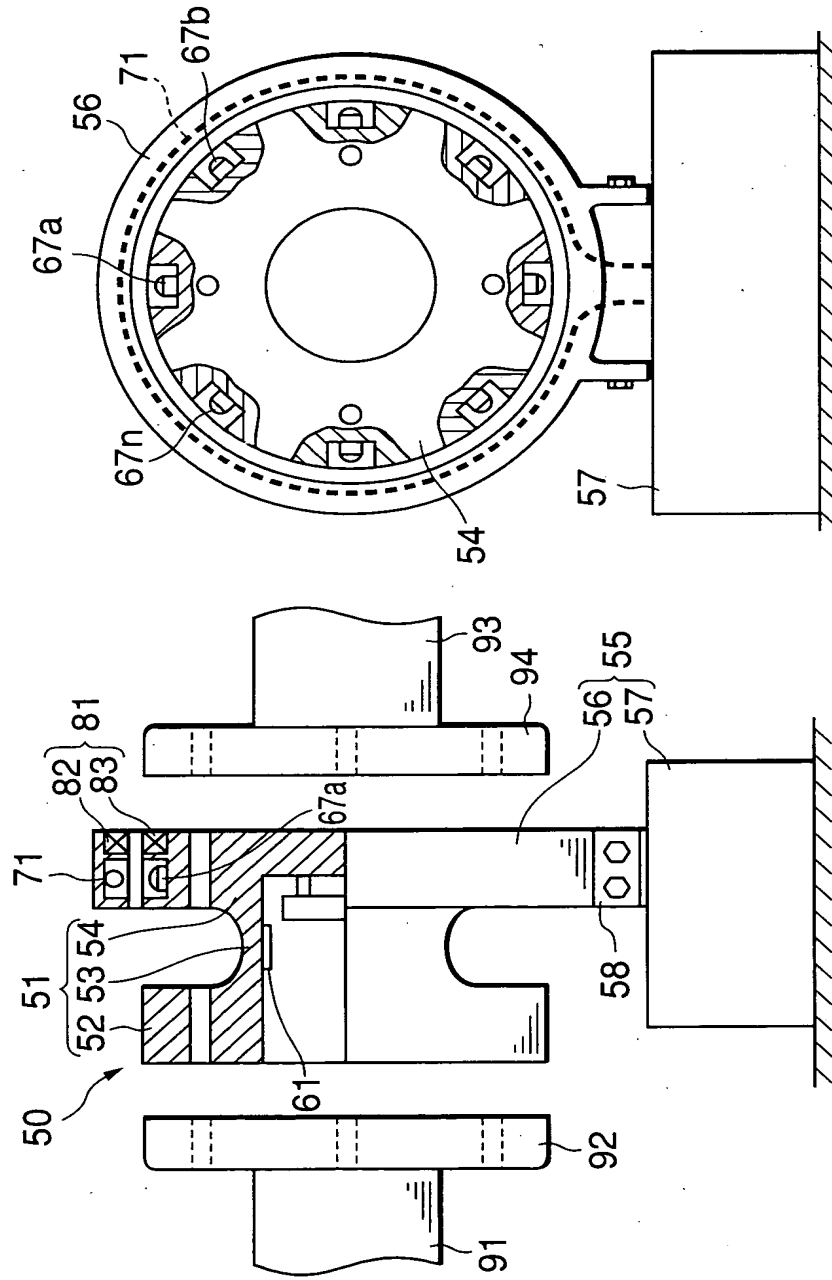
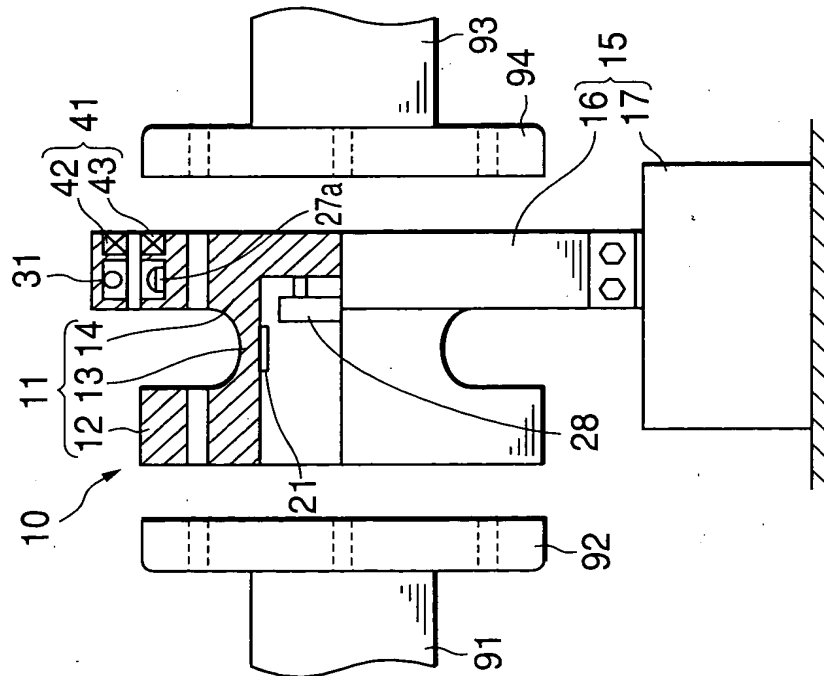# FIG.2A
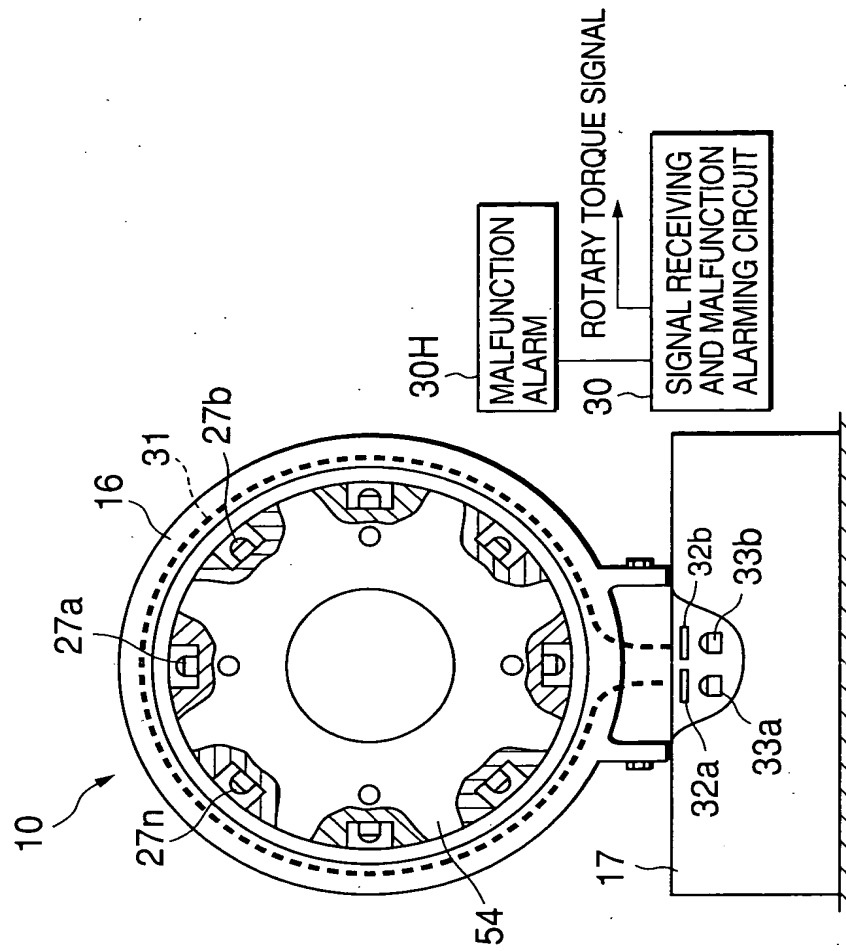
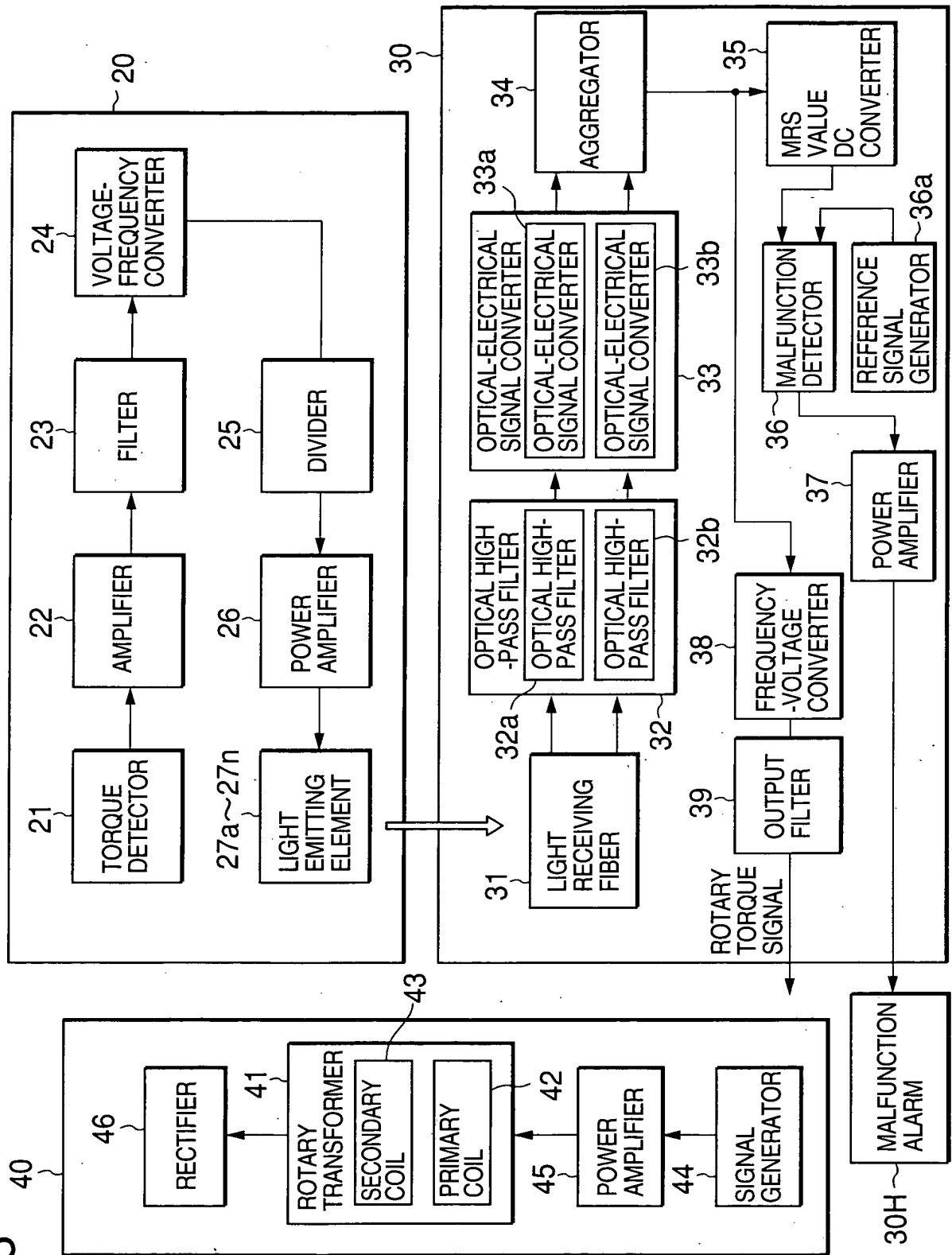# FIG.2B

MALFUNCTION
ALARM

30H

ROTARY TORQUE SIGNAL

SIGNAL RECEIVING
AND MALFUNCTION
ALARMING CIRCUIT

30

FIG.3

20

21	22	23	24
TORQUE DETECTOR	AMPLIFIER	FILTER	VOLTAGE-FREQUENCY CONVERTER

27a～27n

	26	25
LIGHT EMITTING ELEMENT	POWER AMPLIFIER	DIVIDER

30

34 AGGREGATOR

33a OPTICAL-ELECTRICAL SIGNAL CONVERTER
OPTICAL-ELECTRICAL SIGNAL CONVERTER
33b OPTICAL-ELECTRICAL SIGNAL CONVERTER
33

35 MRS VALUE DC CONVERTER

32a OPTICAL HIGH-PASS FILTER
OPTICAL HIGH-PASS FILTER
32b OPTICAL HIGH-PASS FILTER
32

36 MALFUNCTION DETECTOR
36a REFERENCE SIGNAL GENERATOR

31 LIGHT RECEIVING FIBER

37 POWER AMPLIFIER

38 FREQUENCY-VOLTAGE CONVERTER

39 OUTPUT FILTER

ROTARY TORQUE SIGNAL

40

46	41	43 ROTARY TRANSFORMER	42	45	44
RECTIFIER		SECONDARY COIL / PRIMARY COIL		POWER AMPLIFIER	SIGNAL GENERATOR

30H MALFUNCTION ALARM

FIG.4

SIGNAL RECEIVING
AND MALFUNCTION
ALARMING CIRCUIT

MALFUNCTION
ALARM